

We claim

5 1. A strip for testing for the presence or concentration of an analyte in a fluid comprising:

a support member;

a spreading layer on the first side of the support member;

a reagent layer on the spreading layer which comprises a reagent selected for the analyte of interest; and

10 a capillary tube on the opposite side of the support member communicating through an aperture in the support member with the spreading layer, whereby a fluid containing an analyte introduced into the tube flows through the tube and the spreading layer to contact the reagent.

15 2. A test strip according to claim 1 comprising

a carrier layer on the reagent layer and positioned on the other side of the reagent layer from the spreading layer; and

an aperture in the carrier layer for observing or measuring the indication of the reagent.

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3. A test strip according to claim 1 comprising a vent opening in the support member communicating with the spreading layer or the reagent layer for the expulsion of air when fluid flows through the tube.

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4. A test strip according to claim 2 comprising a vent opening in the carrier layer communicating with the spreading layer or the reagent layer for the expulsion of air when fluid flows through the tube.

5. A test strip according to claim 1 comprising a sensor in the capillary tube for electrical detection of the presence of liquid at a preselected point in the tube.

5 6. A test strip according to claim 2 comprising barrier members defining a predetermined volume of the spreading layer and reagent layer in communication with the tube.

10 7. A test strip according to claim 1 wherein the capillary tube is positioned at an angle from about 15° through 90° relative to the surface of the support member.

15 8. A test strip according to claim 1 comprising a filtering layer positioned between the tube and the reagent layer for separating suspended solid materials from the liquid flowing from the tube to the reagent layer.

9. A test strip according to claim 1 wherein the support member contains a recessed area for receiving the spreading layer and reagent layer.

20 10. A test strip according to claim 2 wherein the support member contains a recessed area for receiving the spreading layer and reagent layer.

11. A method of testing a fluid for the presence or concentration of an analyte comprising:

25 providing a test strip comprising:
a support member;
a spreading layer on the first side of the support member;
a reagent layer on the spreading layer which comprises a reagent selected

for the analyte of interest; and

a capillary tube on the opposite side of the support member communicating through an aperture in the support member with the spreading layer, whereby a fluid containing an analyte introduced into the tube flows through the tube and the spreading layer to contact the reagent;

introducing sufficient fluid containing an analyte into the capillary tube to flow onto the reagent layer; and

observing or measuring the indication of the reagent.

12. A method according to claim 9 comprising measuring the indication of the reagent with an electronic meter.

13. A method of making a strip for testing for the presence or concentration of an analyte in a fluid comprising:

providing a support member with a capillary tube positioned on one side of the support member and communicating with the opposite side of the support member through an aperture in the support member;

mounting a spreading layer on the opposite side of the support member and in communication with the aperture in the support member; and

mounting a reagent layer on the spreading layer.

14. A method of claim 13 comprising:

mounting a carrier strip on the reagent layer opposite the spreading layer;

and

providing an aperture in the carrier layer for observing or measuring the indication of the reagent.

15. A method of claim 13 comprising:

preassembling the carrier layer, the reagent layer and the spreading layer;
and
mounting the preassembled layer on the support member.

5 16. A method of claim 13 comprising:
 providing a support member with a recessed area for receiving the
 spreading layer and the reagent layer.

 17. A method of claim 14 comprising:
10 providing a support member with a recessed area for receiving the
 spreading layer and the reagent layer.

 18. A method of claim 15 comprising:
 providing a support member with a recessed area for receiving the
15 spreading layer and the reagent layer.